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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/542,529

07/15/2005

Heino Heckmann

2003DE101

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25255

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08/21/2006

CLARIANT CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
4000 MONROE ROAD
CHARLOTTE, NC 28205

EXAMINER

KOSACK, JOSEPH R

ART UNIT

PAPER NUMBER

1626

DATE MAILED: 08/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/542,529	Applicant(s) HECKMANN ET AL.	
	Examiner Joseph Kosack	Art Unit 1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 8-11 and 13-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/02/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

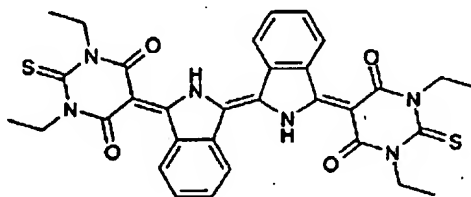
Claims 1-14 and 16-24 are pending in the instant application.

Election/Restrictions

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

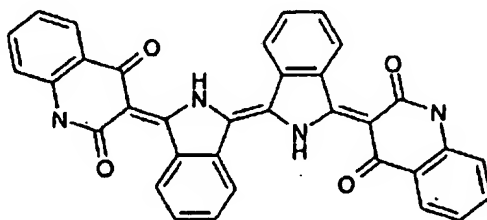
Due to the numerous variables in the claims, e.g. R^1 , R^2 , R^3 , R^4 , A, etc... and their widely divergent meanings, a precise listing of inventive groups cannot be made. The following groups are exemplary:

Group I, claim(s) 1-6 (in part) and 12 (in part), drawn to compounds of Formula I



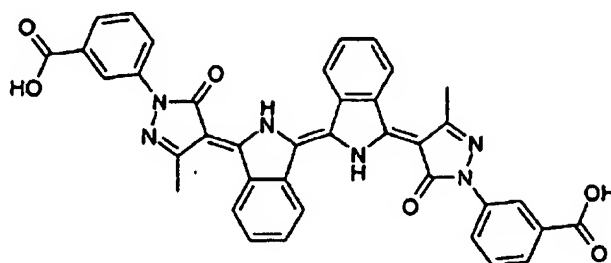
where the compound is

Group II, claim(s) 1-6 (in part) and 12 (in part), drawn to compounds of Formula I



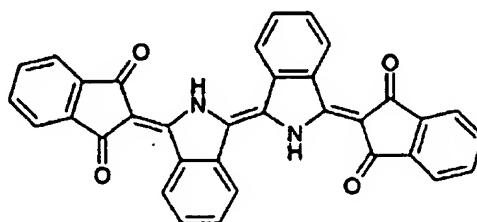
where the compound is

Group III, claim(s) 1-6 (in part) and 12 (in part), drawn to compounds of Formula I



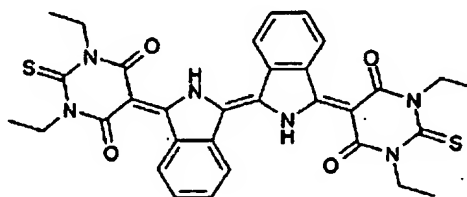
where the compound is

Group IV, claim(s) 1-6 (in part) and 12 (in part), drawn to compounds of Formula



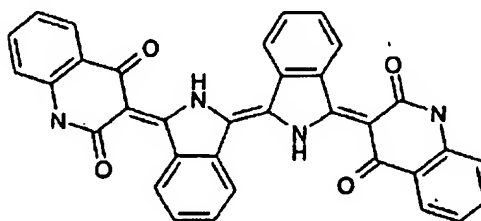
I where the compound is

Group V, claim(s) 7 (in part), drawn to a method of making a compound of



Formula I where the compound is

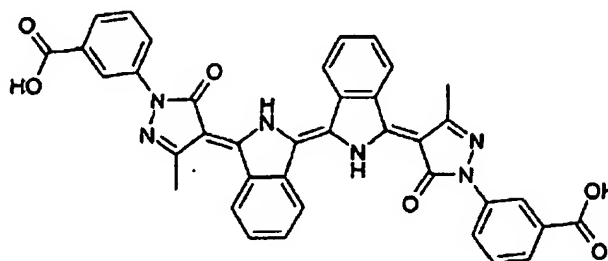
Group VI, claim(s) 7 (in part), drawn to a method of making a compound of



Formula I where the compound is

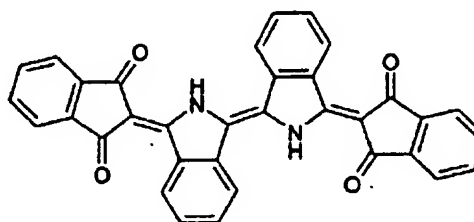
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Group VII, claim(s) 7 (in part), drawn to a method of making a compound of



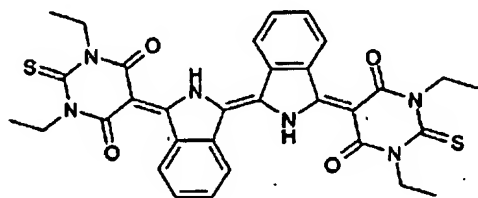
Formula I where the compound is

Group VIII, claim(s) 7 (in part), drawn to a method of making a compound of

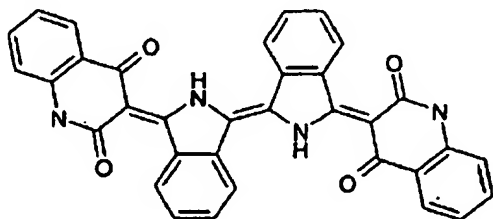


Formula I where the compound is

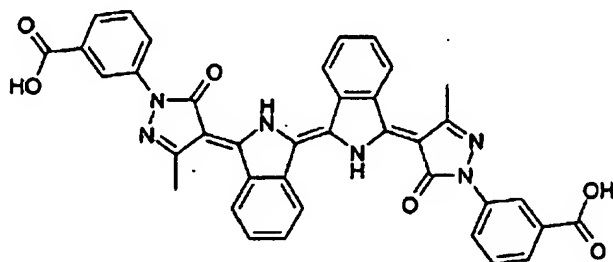
Group IX, claim(s) 8-11 (in part) and 13-15 (in part), drawn to a compositions and materials comprising compounds of Formula I where the formula is



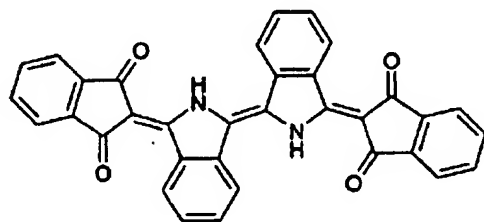
Group X, claim(s) 8-11 (in part) and 13-15 (in part), drawn to a compositions and materials comprising compounds of Formula I where the formula is



Group XI, claim(s) 8-11 (in part) and 13-15 (in part), drawn to a compositions and materials comprising compounds of Formula I where the formula is



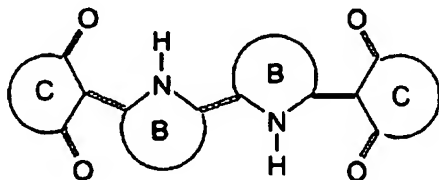
Group XII, claim(s) 8-11 (in part) and 13-15 (in part), drawn to a compositions and materials comprising compounds of Formula I where the formula is



In accordance with 37 CFR 1.499, Applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted. Again, **this list is not exhausted**, as it would be impossible under the time constraints due to the sheer volume of subject matter instantly claimed. Therefore, Applicant may choose to elect a single invention by identifying another specific embodiment not listed in the exemplary groups of the invention and Examiner will endeavor to group the same. **If Applicant is unable to elect a single invention, Applicant may instead choose to elect a specific compound and Examiner will attempt to group it.** The claims herein lack unity of invention under PCT Rule 13.1 and 13.2 since the compounds defined in the claims lack a significant structural element qualifying as the special technical feature

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that defines a contribution over the prior art. The compounds claimed contain a



Formula I:

Since there is no discernable core to the structure, there is no discernable special technical feature of the inventions as a whole. Therefore, unity of invention is lacking. Additionally, the vastness of the claimed subject matter and the complications in understanding the claimed subject matter imposes a burden on any examination of the claimed subject matter. The method of preparation claims will be examined with the elected invention commensurate in scope therewith.

Response to Restriction

During a telephone conversation with Anthony A. Bisulca on July 31, 2006 a provisional election was made with traverse to prosecute the invention of Group II and VI, claims 1-7 and 12. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-7 (in part), 8-11, 12 (in part) and 13-15 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Priority

The claim to priority as a 371 filing of PCT/EP03/14201 filed December 13, 2003 which claims priority to DE 103 02 020.9 filed January 21, 2003 is acknowledged in the instant application.

Information Disclosure Statement

The Information Disclosure Statement filed on November 2, 2005 has been considered fully by the Examiner.

Claim Objections

Claims 1-7 and 12 are objected to for containing elected and non-elected subject matter. The elected subject matter have been identified supra.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 recites the limitation "wherein n and m independently of one another are 1 to 4" in claim 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

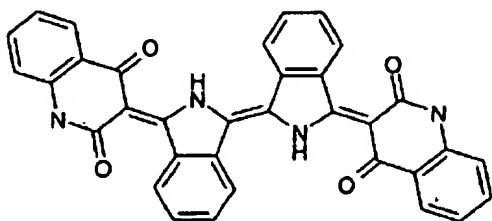
The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

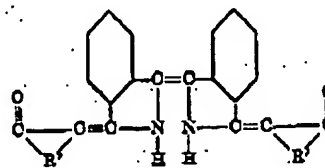
This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-6 and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Davies (USPN 2,254,354).

The instant application claims a compound of the formula



Determination of the scope and content of the prior art (MPEP §2141.01)



Davies teaches compounds of the formula where the 6 membered ring is phenylene and the R' group represents the completion of a heterocyclic ring system. See page 5, column 2, lines 3-20.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

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Davies does not teach specifically the C(O)-C-C(O) ring structure of the instant application.

Finding of prima facie obviousness--rational and motivation (MPEP §2142-2413)

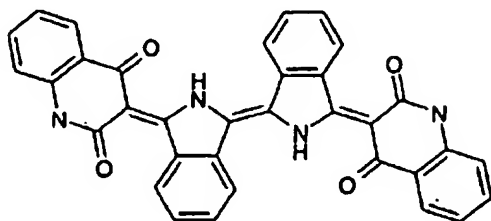
Davies teaches generally the C(O)-C-C(O) ring structure by including all heterocyclic ring systems. See page 5, column 2, lines 3-20. Also, a person of ordinary skill would know that using a beta-diketo ring to make the compounds of Davies would work due to the increased acidity of the hydrogens between the two ketone groups. Therefore, even though Davies does not explicitly state the beta-diketo ring structure of the instant application, it would be obvious to those of skill in the art that a beta-diketo ring structure would also fall under the scope of the invention of Davies.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention was made to follow the synthetic scheme of Davies with a reasonable expectation of success. The motivation to do so is provided by Davies. Davies teaches the use of the compounds as pigments. See page 1, column 1, lines 44-52.

Thus, the claimed invention as a whole was *prima facie* obviousness over the combined teachings of the prior art.

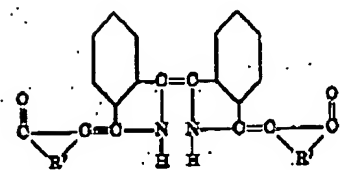
Claim 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Davies (USPN 2,254,354).

The instant application claims a method of making a compound of the formula



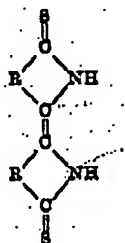
Determination of the scope and content of the prior art (MPEP §2141.01)

Davies teaches a method of making compounds of the formula



where the 6 membered ring is phenylene and the R' group

represents the completion of a heterocyclic ring system. The process comprises



reacting , where R is phenylene, with a keto-ring system to generate the compounds.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

Davies does not teach specifically the C(O)-C-C(O) ring structure of the instant application, or the reaction using an imine substrate instead of sulfide.

Finding of prima facie obviousness--rational and motivation (MPEP §2142-2413)

Davies teaches generally the C(O)-C-C(O) ring structure by including all heterocyclic ring systems. See page 5, column 2, lines 3-20. Also, a person of ordinary

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skill would know that using a beta-diketo ring to make the compounds of Davies would work due to the increased acidity of the hydrogens between the two ketone groups.

Therefore, even though Davies does not explicitly state the beta-diketo ring structure of the instant application, it would be obvious to those of skill in the art that a beta-diketo ring structure would also fall under the scope of the invention of Davies.

The person of ordinary skill would also know that sulfide and imine have the same orbital hybridization of their lone pair(s) of electrons, leading them to act in a similar fashion. Therefore, it would be obvious to those of skill in the art to make the replacement of imine for sulfide and follow the guidance of Davies to make the claimed compounds with a reasonable expectation of success. The motivation to produce the compounds in this fashion is provided by the expectation that groups having lone pairs of electrons in similar hybridization states behave similarly as nucleophiles.

Thus, the claimed invention as a whole was *prima facie* obviousness over the combined teachings of the prior art.

Conclusion

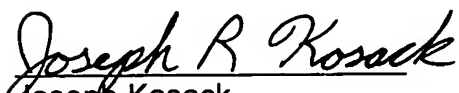
Claims 1-7 and 12 are rejected. Claims 1-7 and 12 are objected to.

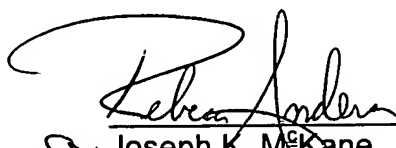

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Kosack whose telephone number is (571)-272-5575. The examiner can normally be reached on M-F 5:30 A.M. until 2:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph McKane can be reached on (571)-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Joseph Kosack
Patent Examiner
Art Unit 1626


 Joseph K. McKane
Supervisory Patent Examiner
Art Unit 1626